

RECLAMATION

Managing Water in the West

Water Year 2012

Northern System

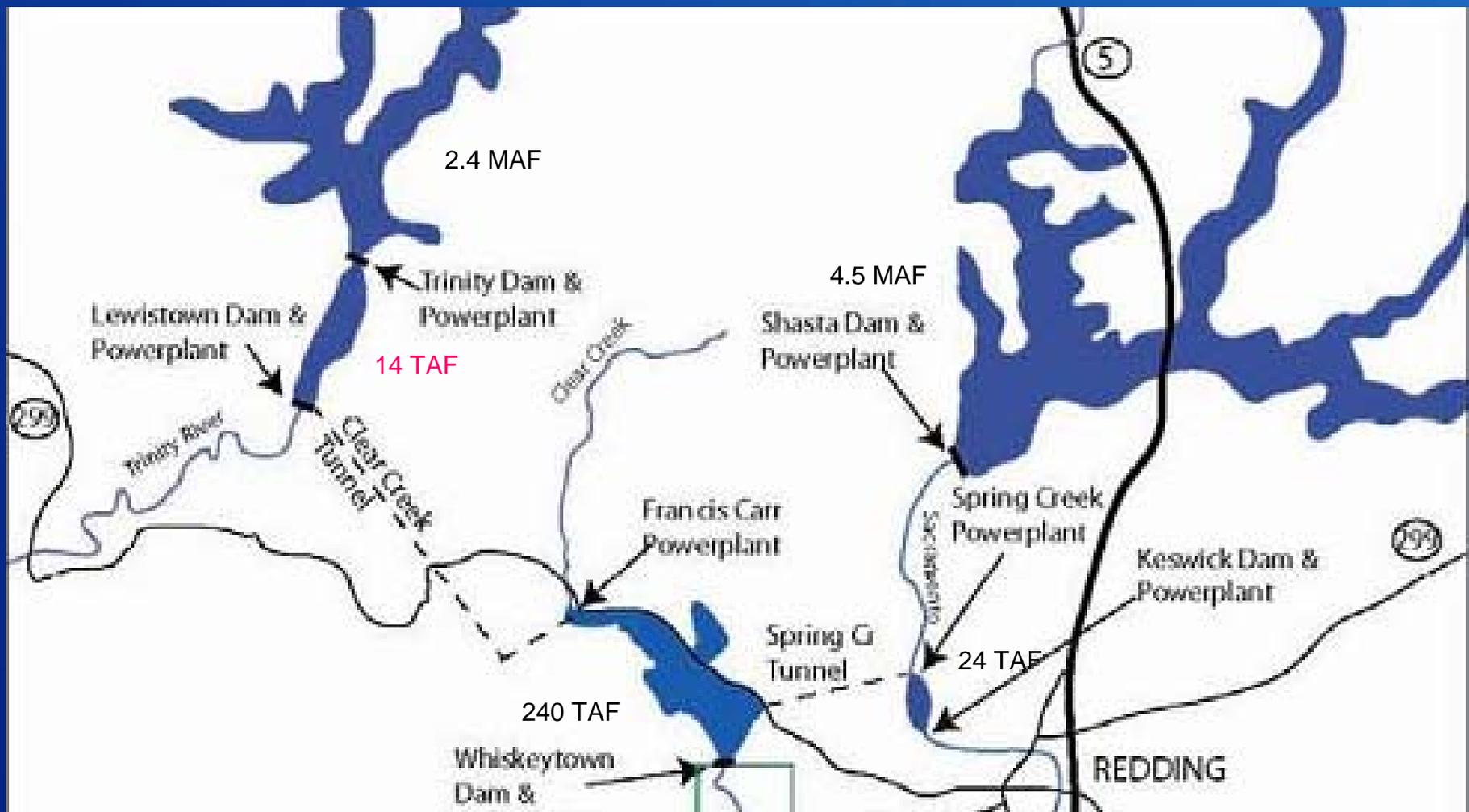


U.S. Department of the Interior
Bureau of Reclamation

Topics

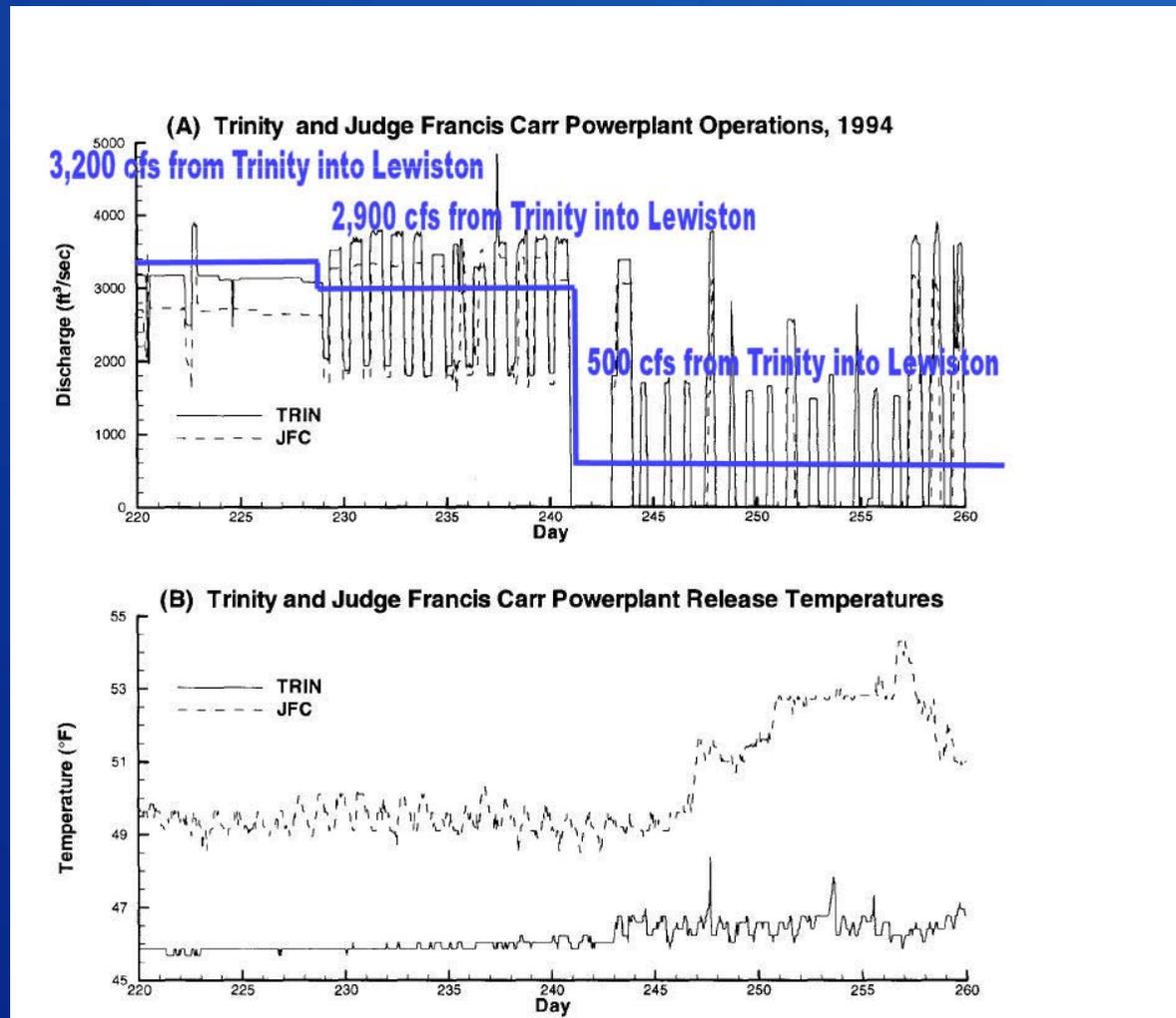
- Northern System
- Power peaking
('97 report & 2012 summer temp study)
- Current Action
- Conclusion

Northern System Overview



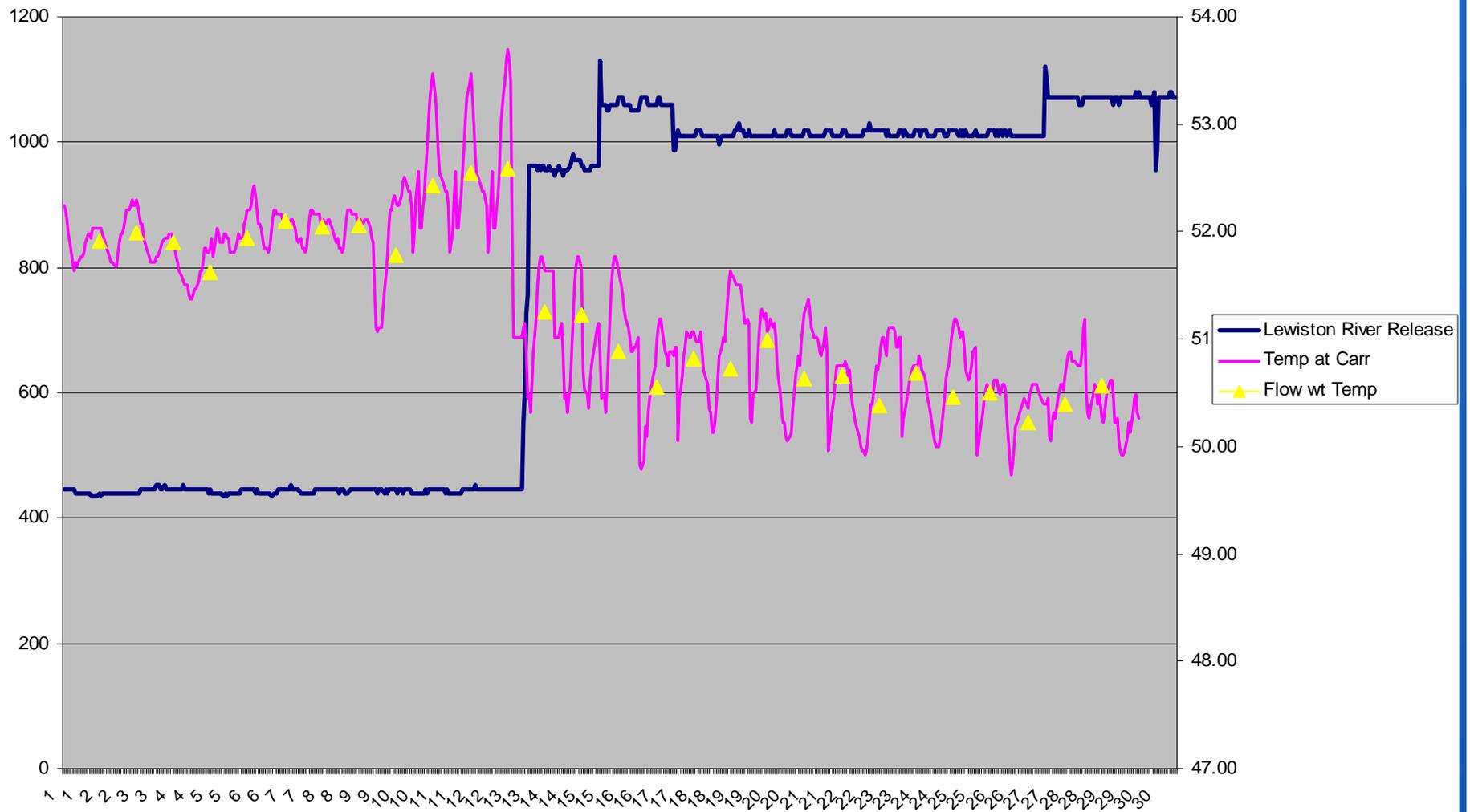
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'97 Water Temperature Report



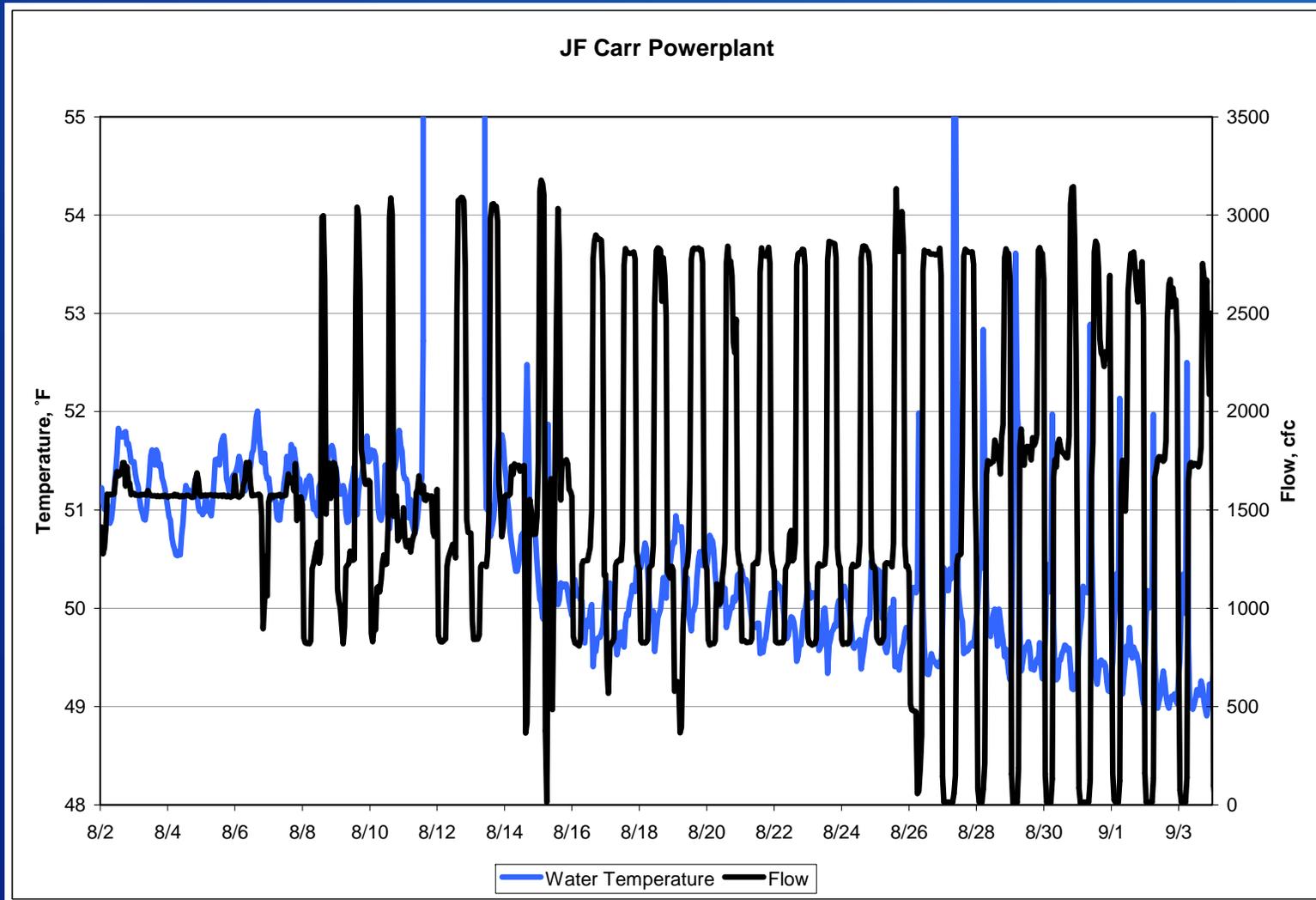
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2012 Temperature Study



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2012 Temperature Study



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2012 Temperature Study

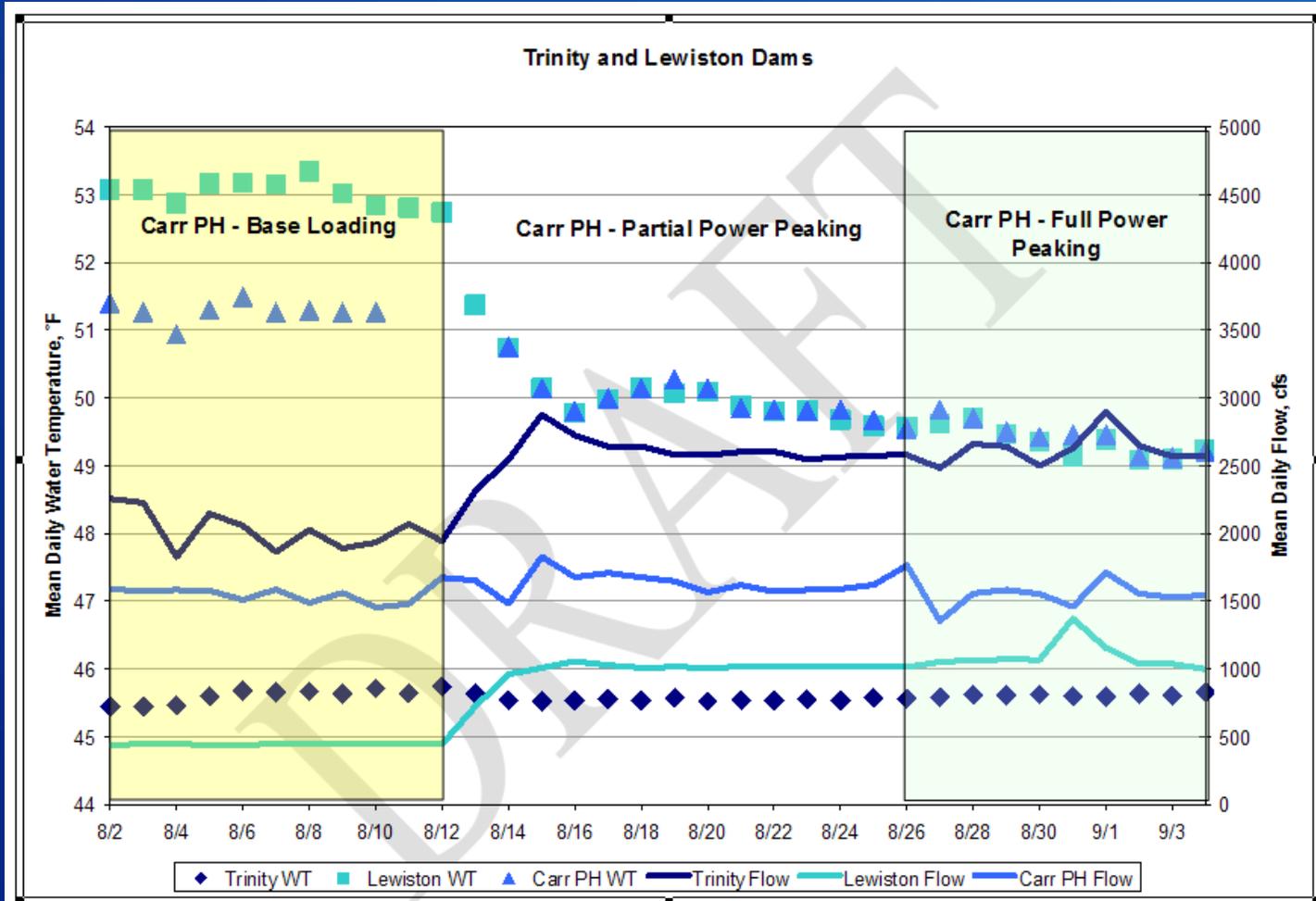


Chart 2

Current Action

- Reclamation has been operating both the upper and lower outlets for Temperature down Clear Creek
- Temperature models.
 - Operations temp model (1-D updated monthly from Feb to Sept. Trinity, Lewiston, Whiskeytown, Keswick, and Shasta reservoir)
 - Lewiston (2 dimensional hydrodynamic)
 - Whiskeytown (3-D RMA)
- Ramp down fall flows – Reclamation coordinates with fishery agency every fall to plan out the fall flows in the B2IT meetings (B2IT meetings meet weekly)
- Temperature Technical Group to review 2012 temperature study and next step

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Conclusion

- Configuration of the Northern System & constraints at Lewiston are the KEY driver for water Temperature issues
- How can we improve the Temperatures?
 - Fix the Oak Bottom Curtain
 - Improve Upper & Lower outlet usage at Whiskeytown outlets

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